



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/046,640	10/26/2001	Michael S. Foster	030048032US	1133
25096	7590	09/08/2005	EXAMINER	
PERKINS COIE LLP PATENT-SEA P.O. BOX 1247 SEATTLE, WA 98111-1247			FOX, JAMAL A	
			ART UNIT	PAPER NUMBER
			2664	

DATE MAILED: 09/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/046,640

Applicant(s)

FOSTER ET AL.

Examiner

Jamal A. Fox

Art Unit

2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-15, 17-29 and 31-41 is/are rejected.
- 7) ☒ Claim(s) 3, 16 and 30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/19/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because Figures 2-8 have text that is illegible. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The abstract of the disclosure is objected to because it is not within the range of 50 to 150 words. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 2, 4-15, 17-29 and 31-41 are rejected under 35 U.S.C. 102(e) as being anticipated by Hallenstål et al. (U.S. Patent No. 6,914,911).

Referring to claim 1, Hallenstål et al. discloses a method for identifying topology (topology, col. 35 lines 18-42) of a network including a plurality of switches (switch, Fig. 3, 3A, 3B, 3I, 6, 8 and respective portions of the spec.), each switch having ports (port, col. 35 lines 20-35), each port of a switch either being connected (connected, col. 1 lines 49-67, col. 2 lines 1-10 and connection points, col. 12 lines 62-65) to another port (port, col. 35 lines 20-35) or not connected to another port (port, col. 35 lines 20-35), the method comprising:

under control of each switch, determining whether each port of the switch is connected (connected, col. 1 lines 49-67, col. 2 lines 1-10 and connection points, col. 12 lines 62-65) to a connected-to port; and

under control of a network manager (ATM Management System, Fig. 20A ref. sign 2010 and respective portions of the spec. and network management, col. 33 lines 20-25),
for each of the switches,

retrieving (retrieved, col. 12 lines 5-10) an indication of which of the ports of the switch are connected to a connected-to port; and

for each port that is connect to a connected-to port, sending a query (query, col. 27 lines 48-62) message through that port (port, col. 35 lines 20-35) to the connected-to port; and

receiving a response (response, col. 35 lines 25-30) from the connected-to port identifying the connected-to device and connected-to port

wherein mappings (mapping, col. 35 lines 18-42) from each switch and port to its connect-to device and connected-to port indicates the topology of the network.

Referring to claim 2, Hallenstål et al. discloses the method of claim 1 wherein processing of the network manager is distributed to the switches (switch, Fig. 3, 3A, 3B, 3I, 6, 8 and respective portions of the spec.).

Referring to claim 4, Hallenstal et al. discloses the method of claim 1 wherein the sending of the connect-to query message is sent via in-band (in-band, col. 14 lines 35-50, col. 15 lines 5-10 and col. 17 lines 60-67), communications of the network.

Referring to claim 5, Hallenstål et al. discloses the method of claim 4 wherein the network manager (ATM Management System, Fig. 20A ref. sign 2010 and respective portions of the spec. and network management, col. 33 lines 20-25) identifies switches

Art Unit: 2664

(switch, Fig. 3, 3A, 3B, 3I, 6, 8 and respective portions of the spec.) of the network via the received responses (response, col. 35 lines 25-30).

Referring to claim 6, Hallenstål et al. discloses the method of claim 5 wherein when a switch (switch, Fig. 3, 3A, 3B, 3I, 6, 8 and respective portions of the spec.) is identified, the network manager (ATM Management System, Fig. 20A ref. sign 2010 and respective portions of the spec. and network management, col. 33 lines 20-25) performs the retrieving (retrieved, col. 12 lines 5-10) of the indications of which of the ports (port, col. 35 lines 20-35) of the switch are connected to a connected-to port.

Referring to claim 7, Hallenstål et al. discloses the method of claim 1 wherein the connected-to device is a node (nodes, col. 1 lines 50-55 and col. 2 lines 1-10).

Referring to claim 8, Hallenstål et al. discloses the method of claim 1 wherein the connected-to device is a switch (switch, Fig. 3, 3A, 3B, 3I, 6, 8 and respective portions of the spec.).

Referring to claim 9, Hallenstål et al. discloses a method for identifying topology (topology, col. 35 lines 18-42) of a network, the network including a plurality of routing devices (switch, Fig. 3, 3A, 3B, 3I, 6, 8 and respective portions of the spec.), each routing device having ports (port, col. 35 lines 20-35), the method comprising:

retrieving (retrieved, col. 12 lines 5-10) an indication of which of the ports of the routing devices are connected (connected, col. 1 lines 49-67, col. 2 lines 1-10 and connection points, col. 12 lines 62-65) to another port (port, col. 35 lines 20-35);

for each port that is connected (connected, col. 1 lines 49-67, col. 2 lines 1-10 and connection points, col. 12 lines 62-65) to another port,

sending a query (query, col. 27 lines 48-62) message through that port (port, col. 35 lines 20-35) to the other port (port, col. 35 lines 20-35); and

receiving a response (response, col. 35 lines 25-30) from the other port (port, col. 35 lines 20-35) identifying the other device and the other port (port, col. 35 lines 20-35).

Referring to claim 10, Hallenstål et al. discloses the method of claim 9 including generating a mapping (mapping, col. 35 lines 18-42) from each routing device (switch, Fig. 3, 3A, 3B, 3I, 6, 8 and respective portions of the spec.) and port to device and port to which it is connected to indicate the topology (topology, col. 35 lines 18-42) of the network.

Referring to claim 11, Hallenstål et al. discloses the method of claim 9 wherein the routing device is a switch (switch, Fig. 3, 3A, 3B, 3I, 6, 8 and respective portions of the spec.).

Referring to claim 12, Hallenstal et al. discloses the method of claim 9 wherein a routing device is an interconnect fabric module (Fig. 2, Switching Fabric, col. 18 lines 45-50, col. 20 lines 10-15 and col. 20 lines 50-65; switch fabric, col. 13 lines 15-20, and respective portions of the spec.).

Referring to claim 13, Hallenstål et al. discloses the method of claim 9 wherein the routing devices use virtual addresses (VPI, VCI, col. 1 lines 40-48) to route frames.

Referring to claim 14, Hallenstal et al. discloses the method of claim 9 wherein the identification of the topology (topology, col. 35 lines 18-42) is performed by a network manager (ATM Management System, Fig. 20A ref. sign 2010 and respective portions of the spec. and network management, col. 33 lines 20-25).

Referring to claim 15, Hallenstål et al. discloses the method of claim 14 wherein the network manager (ATM Management System, Fig. 20A ref. sign 2010 and respective portions of the spec. and network management, col. 33 lines 20-25) is distributed to the routing devices (switch, Fig. 3, 3A, 3B, 3I, 6, 8 and respective portions of the spec.).

Referring to claim 17, Hallenstål et al. discloses the method of claim 9 wherein the query message is sent via in-band (in-band, col. 14 lines 35-50, col. 15 lines 5-10 and col. 17 lines 60-67) communications.

Referring to claim 18, Hallenstål et al. discloses the method of claim 9 wherein the routing devices (switch, Fig. 3, 3A, 3B, 3I, 6, 8 and respective portions of the spec.) of the network are identified via the received responses (response, col. 35 lines 25-30).

Referring to claim 19, Hallenstål et al. discloses the method of claim 18 wherein when a routing device (switch, Fig. 3, 3A, 3B, 3I, 6, 8 and respective portions of the spec.) is identified, retrieving (retrieved, col. 12 lines 5-10) an indication of which of the ports of the routing device are connected to another port.

Referring to claim 20, Hallenstål et al. discloses the method of claim 9 wherein the retrieving (retrieved, col. 12 lines 5-10) of an indication of which of the ports (port, col. 35 lines 20-35) of the routing devices are connected to another port includes sending a request to the routing device (switch, Fig. 3, 3A, 3B, 3I, 6, 8 and respective portions of the spec.).

Referring to claim 21, Hallenstål et al. discloses the method of claim 9 wherein the retrieving (retrieved, col. 12 lines 5-10) of an indication of which ports (port, col. 35

Art Unit: 2664

lines 20-35) of the routing devices are connected to another port includes receiving a message (query, col. 27 lines 48-62) from the routing device.

Referring to claim 22, Hallenstål et al. discloses the method of claim 9 wherein each routing device determines which of its ports are connected to another port (port, col. 35 lines 20-35) and the retrieving (retrieved, col. 12 lines 5-10) of an indication of which of the ports (port, col. 35 lines 20-35) of the routing devices are connected to another port (port, col. 35 lines 20-35) includes transmitting the determined information to a network manager (ATM Management System, Fig. 20A ref. sign 2010 and respective portions of the spec. and network management, col. 33 lines 20-25).

Referring to claim 23, Hallenstål et al. discloses a network manager (ATM Management System, Fig. 20A ref. sign 2010 and respective portions of the spec. and network management, col. 33 lines 20-25) for identifying topology (topology, col. 35 lines 18-42) of a network, the network including a plurality of routing devices (switch, Fig. 3, 3A, 3B, 3I, 6, 8 and respective portions of the spec.), each routing device having ports (port, col. 35 lines 20-35), comprising:

a component that retrieves (retrieved, col. 12 lines 5-10) indications of which of the ports of the routing devices are connected (connected, col. 1 lines 49-67, col. 2 lines 1-10 and connection points, col. 12 lines 62-65) to another port (port, col. 35 lines 20-35); and

a component that sends a query (query, col. 27 lines 48-62) message through each port that is indicated as connected (connected, col. 1 lines 49-67, col. 2 lines 1-10 and connection points, col. 12 lines 62-65) to another port (port, col. 35 lines 20-35) to

Art Unit: 2664

the other port (port, col. 35 lines 20-35) and that receives a response (response, col. 35 lines 25-30) from the other port (port, col. 35 lines 20-35) identifying the other device and the other port (port, col. 35 lines 20-35).

Referring to claim 24, Hallenstål et al. discloses the network manager (ATM Management System, Fig. 20A ref. sign 2010 and respective portions of the spec. and network management, col. 33 lines 20-25) of claim 23 including a component that generates mapping (mapping, col. 35 lines 18-42) from each routing device (switch, Fig. 3, 3A, 3B, 3I, 6, 8 and respective portions of the spec.) and port to the device and port to which it is connected to indicate the topology (topology, col. 35 lines 18-42) of the network.

Referring to claim 25, Hallenstål et al. discloses the network manager (ATM Management System, Fig. 20A ref. sign 2010 and respective portions of the spec. and network management, col. 33 lines 20-25) of claim 23 wherein a routing device is a switch (switch, Fig. 3, 3A, 3B, 3I, 6, 8 and respective portions of the spec.).

Referring to claim 26, Hallenstål et al. discloses the network manager (ATM Management System, Fig. 20A ref. sign 2010 and respective portions of the spec. and network management, col. 33 lines 20-25) of claim 23 wherein a routing device is an interconnect fabric module (Fig. 2, Switching Fabric, col. 18 lines 45-50, col. 20 lines 10-15 and col. 20 lines 50-65; switch fabric, col. 13 lines 15-20, and respective portions of the spec.).

Referring to claim 27, Hallenstål et al. discloses the network manager (ATM Management System, Fig. 20A ref. sign 2010 and respective portions of the spec. and

Art Unit: 2664

network management, col. 33 lines 20-25) of claim 23 wherein the routing devices (switch, Fig. 3, 3A, 3B, 3I, 6, 8 and respective portions of the spec.) use virtual addresses (VPI, VCI, col. 1 lines 40-48) to route messages.

Referring to claim 28, Hallenstål et al. discloses the network manager (ATM Management System, Fig. 20A ref. sign 2010 and respective portions of the spec. and network management, col. 33 lines 20-25) of claim 27 including a component that configures each routing device (switch, Fig. 3, 3A, 3B, 3I, 6, 8 and respective portions of the spec.) with routing data for virtual addresses (VPI, VCI, col. 1 lines 40-48).

Referring to claim 29, Hallenstål et al. discloses the network manager (ATM Management System, Fig. 20A ref. sign 2010 and respective portions of the spec. and network management, col. 33 lines 20-25) of claim 28 wherein each frame of data identifies a destination virtual address (VPI, VCI, col. 1 lines 40-48).

Referring to claim 31, Hallenstål et al. discloses the network manager (ATM Management System, Fig. 20A ref. sign 2010 and respective portions of the spec. and network management, col. 33 lines 20-25) of claim 23 wherein the query message is sent via in-band (in-band, col. 14 lines 35-50, col. 15 lines 5-10 and col. 17 lines 60-67) communications.

Referring to claim 32, Hallenstål et al. discloses the network manager (ATM Management System, Fig. 20A ref. sign 2010 and respective portions of the spec. and network management, col. 33 lines 20-25) of claim 23 wherein the routing devices (switch, Fig. 3, 3A, 3B, 3I, 6, 8 and respective portions of the spec.) of the network are identified via the responses (response, col. 35 lines 25-30).

Referring to claim 33, Hallenstål et al. discloses the network manager (ATM Management System, Fig. 20A ref. sign 2010 and respective portions of the spec. and network management, col. 33 lines 20-25) of claim 32 wherein the component that retrieves (retrieved, col. 12 lines 5-10) an indication of which of the ports (port, col. 35 lines 20-35) of the routing device (switch, Fig. 3, 3A, 3B, 3I, 6, 8 and respective portions of the spec.) are connected to a another port (port, col. 35 lines 20-35) retrieves (retrieved, col. 12 lines 5-10) the indication when a routing device (switch, Fig. 3, 3A, 3B, 3I, 6, 8 and respective portions of the spec.) is identified.

Referring to claim 34, Hallenstål et al. discloses the network manager (ATM Management System, Fig. 20A ref. sign 2010 and respective portions of the spec. and network management, col. 33 lines 20-25) of claim 33 wherein the component that retrieves (retrieved, col. 12 lines 5-10) an indication sends a request to a routing device (switch, Fig. 3, 3A, 3B, 3I, 6, 8 and respective portions of the spec.).

Referring to claim 35, Hallenstål et al. discloses the network manager (ATM Management System, Fig. 20A ref. sign 2010 and respective portions of the spec. and network management, col. 33 lines 20-25) of claim 23 wherein the component that retrieves (retrieved, col. 12 lines 5-10) an indication of which ports (port, col. 35 lines 20-35) of the routing devices are connected to another port (port, col. 35 lines 20-35) includes receiving a message from the routing device (switch, Fig. 3, 3A, 3B, 3I, 6, 8 and respective portions of the spec.).

Referring to claim 36, Hallenstål et al. discloses the network manager (ATM Management System, Fig. 20A ref. sign 2010 and respective portions of the spec. and

Art Unit: 2664

network management, col. 33 lines 20-25) of claim 23 wherein each routing device determines which of its ports are connected to other ports (port, col. 35 lines 20-35) and the retrieving (retrieved, col. 12 lines 5-10) of an indication of which of the ports (port, col. 35 lines 20-35) of the routing devices (switch, Fig. 3, 3A, 3B, 3I, 6, 8 and respective portions of the spec.) are connected to another port (port, col. 35 lines 20-35) includes receiving the determinations from the routing devices (switch, Fig. 3, 3A, 3B, 3I, 6, 8 and respective portions of the spec.).

Referring to claim 37, Hallenstål et al. discloses a network manager (ATM Management System, Fig. 20A ref. sign 2010 and respective portions of the spec. and network management, col. 33 lines 20-25) for identifying topology (topology, col. 35 lines 18-42) of a network, the network including a plurality of routing devices (switch, Fig. 3, 3A, 3B, 3I, 6, 8 and respective portions of the spec.), each routing device having ports, comprising:

means for retrieving (retrieved, col. 12 lines 5-10) indications of which of the ports of the routing devices are connected (connected, col. 1 lines 49-67, col. 2 lines 1-10 and connection points, col. 12 lines 62-65) to another port (port, col. 35 lines 20-35); and

means for sending a query (query, col. 27 lines 48-62) message through each port that is indicated as connected (connected, col. 1 lines 49-67, col. 2 lines 1-10 and connection points, col. 12 lines 62-65) to another port (port, col. 35 lines 20-35) to the other port (port, col. 35 lines 20-35) and that receives a response (response, col. 35

lines 25-30) from the other port (port, col. 35 lines 20-35) identifying the other port (port, col. 35 lines 20-35).

Referring to claim 38, Hallenstål et al. discloses the network manager (ATM Management System, Fig. 20A ref. sign 2010 and respective portions of the spec. and network management, col. 33 lines 20-25) of claim 37 including a component that generates a mapping (mapping, col. 35 lines 18-42) from each port (port, col. 35 lines 20-35) to its connected-to port to indicate the topology (topology, col. 35 lines 18-42) of the network.

Referring to claim 39, Hallenstål et al. discloses the network manager (ATM Management System, Fig. 20A ref. sign 2010 and respective portions of the spec. and network management, col. 33 lines 20-25) of claim 37 wherein a routing device is a switch (switch, Fig. 3, 3A, 3B, 3I, 6, 8 and respective portions of the spec.).

Referring to claim 40, Hallenstål et al. discloses the network manager (ATM Management System, Fig. 20A ref. sign 2010 and respective portions of the spec. and network management, col. 33 lines 20-25) of claim 37 wherein a routing device is an interconnect fabric module (Fig. 2, Switching Fabric, col. 18 lines 45-50, col. 20 lines 10-15 and col. 20 lines 50-65; switch fabric, col. 13 lines 15-20, and respective portions of the spec.).

Referring to claim 41, Hallenstål et al. discloses the network manager of claim 37 wherein the routing device use virtual addresses (VPI, VCI, col. 1 lines 40-48) to route messages.

Allowable Subject Matter

6. Claims 3, 16 and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(571) 273-8300, (for formal communications intended for entry)

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jamal A. Fox whose telephone number is (571) 272-3143. The examiner can normally be reached on Monday-Friday 6:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (571) 272-3134. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to 2600 Customer Service whose telephone number is (571) 272-2600.


Jamal A. Fox



WELLINGTON CHIN
SENIOR PATENT EXAMINER